

**Address by Duke University President Nannerl O. Keohane
prepared for the
New Student Convocation
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It is truly my privilege to welcome all of you to Duke. I extend a warm welcome to the parents and families who are with us electronically in Page Auditorium and Reynolds Theater. I am also glad to greet transfer students and those who are here on exchange from other universities around the world. And welcome back to returning students, staff and faculty members who are here as part of this historic convocation at the opening of the school year. Most of all, a heartfelt welcome to members of the Class of 2000.

What a historic ring that has to it, opening up vistas on a whole new century! In speaking of your class, it is easy to lapse into florid rhetoric about the close of a century and the beginning of a new millennium, as though you had the weight of the whole world on your shoulders. I shall try, for the most part, to resist this temptation. I'm sure you feel, and rightly so, that the fact of being in the Class of oh-oh is just an accident of your parents' timing, and that you personally have plenty to do to get ready for your Duke experience without being held responsible for the next thousand years.

However, I'd like to use this accidental fact that your birth has placed you in a class that looks mighty special on the calendar as an occasion to think together about time -- a precious resource on a university campus, and one which will be important in a great many ways in your own university experience.

Human concepts of time

As human beings, we are a very time-saturated species. We measure our lives, our days, our minutes, we construct our world by the sense of movement from yesterday, this morning, into the future. We cannot be sure that this is the way the world "really is"; but it is so deeply embedded in our psyches that it is virtually impossible to imagine what life would be like without it.

All cultures that we know, as soon as they leave marks of their existence for archaeologists to discover, mark time -- with standing stones or water clocks or carvings on tablets. Think of all the different kinds of clocks, calendars, sundials, digital read-outs and other ways of measuring and codifying time that you've already learned about and experienced. Imagine how many more our inventive species has produced. Trying to think about what it would be like to live in a world without time is disorienting in the extreme.

The most creative science fiction writers have reveled in unsettling our notions of space and species. They have also written a lot about time -- about time travel, mentally or in machines, moving into the past and future, twisting time around, playing off the theory of relativity. Modern physics has developed ways of theorizing about time that make most science fiction stories of the past seem tame -- just read Stephen Hawking's Brief History of Time, if you doubt that statement. But so far as I know, no one has constructed a persuasive story about a world organized in a completely timeless fashion. The second law of thermodynamics, which posits increasing entropy over time, has not been repealed, and even in the most far-out science fiction story some notion of sequence, of temporal order, however bizarre, is always there.

And there, by the way, is your first challenge as Duke undergraduates. Those of you who are rabid sci fi fans are no doubt now searching your mental computer files to recall a story built around the absence of time (and if you think of one, please let me know at the reception after this speech) -- or trying to think what it would be like to write such a story -- and if so, I hope you'll let me read it, and share it with our university sci- fi magazine. Others may be thinking about different kinds of creativity. OK, so it would be devilishly difficult to write a story with no time, and almost impossible to compose a piece of music that doesn't have time at its backbone, or

to play any game, any sport that doesn't depend on some sort of time -- but what about an abstract painting, or a piece of pottery? And don't some memories or spiritual experiences seem to us timeless, transcendent?

If you are thinking along these lines, I congratulate you for your creativity; if you are wondering where on earth I'm going with this speech, I congratulate you on your skeptical pragmatism. But in either case, I'd now like to call you back to the present, and make a few more down-to-earth points about time.

Given that our lives are so deeply time-embedded, it is not surprising that a great many of our ways of talking about what we do make reference to time. We speak of something that happens in a fortuitous way as "timely," something that is really important as "momentous." I would like to suggest that some of our other common expressions are good maxims to keep in mind as you figure out how to make the best of your time at Duke.

Thinking about how to use your time wisely

First of all, think about how you spend your time. It is interesting that we do think about time, which might seem to move us along inexorably, something quite beyond our control, as something we can indeed manage, something we can spend or waste. We think of time as a resource -- not a resource that can be hoarded, but one that can be wisely used, or squandered. There will be many hours of many days available to you as Duke undergraduates over the next four years or so -- but they are not infinite. If you are not careful, it will be easy to let too many of those hours and days slip by without taking advantage of all the wonderful things Duke has to offer -- to risk feeling, when we all gather back here in four years for your Baccalaureate, that there are so many things you wish you could have done, or done differently, at Duke.

By this piece of advice, I don't mean that you should organize every day in a regimented fashion, always making notes on yellow stickies to remind you to use every thirty minutes constructively. Spending your time well should sometimes mean being playful, just hanging out on your house bench, ordering in pizza late at night so you can continue a conversation instead of getting back to work, or walking in Duke Gardens with a friend. Spending your time well should sometimes mean exploring something entirely different, refreshing your life by doing something you have not done before. Sometimes, in other words, you should do some things that a harsh critic might call "wasting time," in order to spend your Duke time wisely.

But spending your time well at Duke does mean sometimes thinking about how you are organizing your life, how you are choosing your courses and your extracurricular activities and your friends and what happens during your days, to make sure you are not letting the special and extraordinary advantages of a great university campus pass you by unknowingly. It means managing your hours and days and weeks to some extent, so that you have time to think about what you are learning rather than always breathlessly getting to it at the last possible minute, even if you are confident that you can do this and still get a good grade.

Just getting a good grade isn't the only point of a good education; if that's all you care about, you'll miss a great deal at Duke. A good education requires taking some time to think about what you are learning, to plan your course of action, and to ponder how all these new things might fit together and where they are leading you.

Those of you who are Lewis Carroll fans will recall that Alice's adventures all began on a perfectly ordinary seeming day when a White Rabbit ran past her. "There was nothing so very remarkable in that [writes Carroll]; nor did Alice think it so very much out of the way to hear the Rabbit say to itself 'Oh dear! Oh dear! I shall be too late!' (When she thought it over afterwards it occurred to her that she ought to have wondered at this, but at the time it all seemed quite natural); but, when the Rabbit actually took a watch out of its waistcoat-pocket, and looked at it, and then hurried on, Alice started to her feet, for it flashed across her mind that she had never before seen a rabbit with either a waist-coat pocket, or a watch to take out of it, and burning with curiosity, she ran across the field after it, and was just in time to see it pop down a large rabbit hole under the hedge. In another moment down went Alice after it ..."

-- and the rest, as they say, is history -- or more accurately, one of the best stories ever written.

This whole place we call the Gothic Wonderland can sometimes seem too much like that other Wonderland Alice found herself in when she dived down the rabbit hole, particularly to a newcomer. I very much doubt that you'll encounter a rabbit with a pocket- watch; but some of the people you run into will behave surprisingly like the White Rabbit -- running incessantly in no particular direction and bemoaning how very late they are for some undefined crucial appointment somewhere else. Or like the Red Queen in *Through the Looking Glass*, who responded to Alice's surprise at remaining so long in the same place even though they'd been running very fast, by saying "Now here, you see, it takes all the running you can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that!" Duke may sometimes feel like that; but don't feel you have to emulate either the White Rabbit or the Red Queen; don't feel that the only way to prove you are spending your time at Duke wisely is to rush through it madly proving how very busy you are.

Maybe the best way to put this is to move to a different metaphor and advise you to take your time. Taking your time usually means not hurrying, doing something deliberately, and that can indeed be good advice for all of us at Duke. Remember that you have some power over time, some ability to manage it and use it -- not to make the clock run slower or create 120 minutes in an hour (although sometimes you will fervently wish you could do this) -- but to fill the time more or less richly, to make it matter.

One of the most profound statements I've ever read about time comes from Jorge Luis Borges, the great Argentinian author, in an essay called "A New Refutation of Time," in which he said:

Time is the substance I am made of. Time is a river that sweeps me along, but I am the river; it is a tiger that devours me, but I am the tiger; it is a fire that consumes me, but I am the fire.

Time is not just something outside of you moving you along. Time is also you, it is what you are made of, and you can spend it, use it, manage it, take it, to make it serve your own purposes and goals.

Most of your time at Duke, of course, will be shared with other people. Sharing time with friends and classmates will come naturally. It is part of what makes this place so rewarding -- along with the occasional solitary moment where you take your time to think about your life. Beyond this, however, I advise you to remember that one of the most important things you can do with your time is to give it away. You will have a much richer Duke experience, your time here will mean much more to you, if you are careful sometimes to give it to someone who really needs your help. I am thinking first of the importance of being attentive to the needs of those around you, of taking time to listen sympathetically to a friend in trouble, giving of your own time to enrich that of your friends. But I am also thinking of the importance of community service, particularly in the city of Durham, of helping people who really need your help.

If you follow the patterns of past classes at Duke, more than three-quarters of you will volunteer in the community during your time at Duke. This is a wonderful statistic, but it covers a lot of different kinds of activities. For some people the volunteering may be no more than a casual way to fulfill a requirement of a fraternity or a sorority or religious organization. For others, volunteer service becomes a deep commitment, a crucial part of their education through its role in courses that include components of what we call "service learning," even a way of life.

I urge all of you to give some of your time to service in a meaningful fashion -- meaningful both for you and for the people you are helping. Stop and think about what you are doing, pay sensitive attention to the people whose lives you are touching with your own, don't just go through the motions of tutoring or house building or visiting the elderly. In truly giving of your time, and thus of yourself, you are making a difference to someone, and this will make a difference in your own life as well. There are many people in Durham who really need your help. In helping them, you can gain a much fuller perspective on your own life, and on life in general.

That's a good deal of fairly serious advice I've just loaded on you, so I need to be sure to say that, while you are doing all this, don't forget that one of the most important things about Duke is having a good time. This is a great place to play, to make friends and enjoy life, to relish the beauty and the excitement and the fun. Don't get so worried or so harried that you forget that having fun is part of Duke as well. Most of you do not need that advice; you're quite ready to do this on your own without my encouragement. But some of you may be tempted to take Duke so seriously that you'll forget to enjoy it, too.

Let me pull these meditations on time together by observing that time feels different at different times. By that cryptic comment, I mean that time has a different substance, texture, feel to it depending on whether you are in the last stages of a road race, trying to bestir yourself to get out of bed on a Monday morning, deeply absorbed in an engrossing lab experiment, watching a video, wolfing down your food to get to class or lingering over ice cream with friends. Time feels quite different in Cameron Indoor Stadium, especially in the final two minutes of a close game against Carolina, as Coach K divides up time, calls time, stops the clock, to prolong those precious seconds to best advantage for the team. And fifteen minutes in the last quarter at Wallace Wade Stadium can actually take more than forty-five.

Thinking about how time can feel different at different times reminds us that there are different ways to use time well, depending on what time it is. And the best words for expressing this truth are those of Ecclesiastes, which your parents may remember as the lyrics of a Byrds song when they were in college. Here's part of that lovely passage:

To everything there is a season, and a time to every purpose under heaven: a time to be born and a time to die; a time to plant, and a time to pluck up that which is planted; a time to weep, and a time to laugh; a time to mourn and a time to dance; a time to cast away stones, and a time to gather stones together; a time to embrace, and a time to refrain from embracing; a time to keep silence, and a time to speak; a time to love, and a time to hate; a time of war, and a time of peace.

The idea of progress

In the last part of my talk today, I want to introduce one more theme suggested by your status as members of this class of the year 2000. I want to ask you to think with me about time possibly having a particular direction, a sense of movement and cumulative change. This concept is particularly relevant to your class because people have inexorably been moved to think about where time is going when they bump up against one of its crucial markers -- a new year, a new century, a new millennium.

A narrow reading of history would suggest that only once before in history have we confronted a new millennium -- in the late 900s, a thousand years ago. But one of the things you should learn quickly at Duke, if you do not already know this, is to be skeptical about bald unqualified statements about history or human culture.

The statement I just made is only true if you are looking at history through the lens of Christianity, which dates time from before and after the birth of Christ. But if you look at things from the point of view of the Muslim calendar, you are actually members of the class of 1420; in the ancient Chinese calendar, 4698 -- the year of the dragon; and as the Jewish religion measures time, you are in the class of five thousand, seven hundred and sixty-one. Try that one on the next person who says something about your being in the historic class of 2000.

However, in the culture rooted in Christianity that has shaped so much of our literature, history and consciousness, there has only been one previous millennium, and it evoked incredible emotions in the people who were alive at that time. Many of them rejoiced (or shuddered, depending on whether they thought they were saved or damned) to think that the end of history had come. It seemed so right, somehow, that the

apocalyptic moment of the Last Judgment and the coming of the kingdom of heaven should coincide with the turning of time to the year 1000. And so people were puzzled, or disappointed, or relieved, when the year 1000 dawned, and after the debris from the New Years Eve parties had all been swept away -- if they had New Years Eve parties at that time -- there they still were, and life went on as usual.

Most of us expect that the same will be true on January 1st, 2000 -- or 1999, or 2001, since there are differences of opinion about how you actually count the millennium. We could be wrong, of course. Some folks believe that the coming of the year 2000 is the obviously propitious time for the end of history, after all, and there have been some dicey moments in the past few decades when other folks wondered whether we would ever get there at all.

In the meantime, there will be a great many special editions of magazines, newspapers and TV shows looking back on the past decade, century and millennium, talking about the best movies, the biggest sports events, the worst wars and natural disasters, the top celebrities, and so forth, because that's the way that human beings seem to find it easiest to organize their time, in retrospect.

In addition to identifying the first, the biggest, the worst things that have ever happened, Western culture also organizes time through the concept of progress -- the idea that things are getting better over time, that we are in a more fortunate situation than our ancestors. Recalling my earlier warning against accepting generalizations about human culture too easily, I hasten to note that this is not a universally held opinion. Quite a few people have thought of human history as an endless set of cycles that feed back on themselves without getting anywhere new, or a record of serious decline from some past golden age, or that history has no pattern of any kind at all.

Nonetheless, the notion of progress is deeply embedded in the Western culture that has shaped many of us in this gathering. Many of our greatest philosophers and historians, even those who are not religious, have assumed that history has a direction, a movement, that we are going somewhere, making progress, not just moving around aimlessly or irrationally. We are accustomed to seeing the clearest evidence of this in developments that improve our lives -- in the discovery of the polio vaccine or drugs that delay the onset of Alzheimers disease, in the invention of the jet airplane or the laser. At Duke, you will have an opportunity to study with some of the scientists who have been instrumental in several of these discoveries, and even more exciting ones to come.

Only the most curmudgeonly observer could deny that we are better off because smallpox has been conquered, and can talk to people we love who are thousands of miles away, by the miracle of the telephone or the computer. However, even in the realm of scientific discovery and technological innovation, there are serious questions about whether we are generally better off. Some folks think tv is a mixed blessing at best, because it leads people to spend too much time staring at a screen in the couch potato mode instead of doing other, presumably more worthwhile, activities. And it is becoming frighteningly apparent that some forms of progress we took for granted only a few decades ago are actually illusory.

In fighting insects by chemical sprays we upset the environment and threatened many species of birds. Viruses of all kinds become quickly resistant to our vaccines and herbicides. Horrific new forms of viruses develop, such as AIDS; old diseases, such as tuberculosis, take on new life. Factories that make all those wonderful creature comforts we take for granted destroy our streams and pollute our air. And if you ask whether there has been anything like cumulative improvement in morals, or art, or statecraft, the answer is surely far from obvious. Such questions will come up with renewed vigor with the approach of the new millennium.

At the outset of my talk, I referred to the bold new concepts of time in modern physics. Biologists, geologists and astronomers are developing equally bold theories of development, evolution, of the universe, of the earth, of all species. There are major disagreements among them about how best to conceptualize these things. Such

disagreements make modern science quite exciting. Those of you who think you don't like science can therefore look forward to learning science at Duke.

The progress of the individual human being

But all these fascinating questions about how we think about time, about whether there is any real directionality in history or in the universe, anything we can call progress, cannot detract from one clear form of progress, the one closest to every one of us: the individual growth and development of each human being.

Since your earliest months and years, each of you has been making progress -- in the incredibly rapid learning of the infant and toddler, in the development of your strengths, mental and physical, in the flowering of all your capacities. That development will continue in some measure throughout your lives -- even those of us in middle age, your parents and professors, continue to make some progress, at least mentally, even if we are subject to the inexorable second law of thermodynamics in our bodily decline and eventual decay.

But you as Duke students now have the gift of time in which you can make very rapid progress in your understanding of the world. This gift has been given to you by your parents and those who have provided the generous support that makes a Duke education possible for every one of you, even those whose parents are paying full tuition. All these people have invested in you, care for you, wish you well.

Our job at Duke is to provide the best possible environment for learning in all its dimensions -- to provide rich opportunities and good companions, to suggest some directions, set some boundaries and some requirements, make your surroundings as safe and healthy as we can, and then encourage each of you to set out on the next phase of this journey we call education. You can expect to be mentally stretched, unbent, challenged and transformed. You can expect deep emotional and spiritual experiences, equally transformative in different ways. We are confident, on the basis of good evidence, that the experience will be profoundly rewarding for almost all of you, that you will emerge well prepared for the next stages of your lives.

Duke is now your university. Each of you belongs here in this community, however strange and new it feels today. You have a chance to help shape it for good, as it shapes you inexorably in turn. You will find many different kinds of people here as companions on your journey. Seek them out, in conversations and encounters both playful and serious. Don't react to novelty by remaining closed in to those things that at first seem most familiar to you, and therefore most comfortable. You'll make a lot less progress, as a person, if you think that way -- whether it is the courses that you choose, the friends you spend time with, or the extracurricular activities you engage in. Do some things, find some people, explore some courses, that are quite unlike anything or anybody you've ever known before. That's part of the secret to a truly transformative education.

Over the years to come, there will be some hard times, some disappointments and frustrations, but there will also be many joyous times and times of great accomplishment. By joining this university you bring to it enrichments of your own -- gifts of curiosity, imagination, energy, devotion. I hope that your time at Duke will be full and fruitful for you, as you make progress toward joining the company of educated men and women. We look forward to spending that time with you.

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